

Application No. 09/748,118
Amendment Dated September 17, 2003
Reply to Office Action of June 17, 2003

Docket No. YHK-0059

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Sub B
A/C

1. (Previously Presented) A plasma display panel wherein an address interval for selecting discharge cells is included, and a display area and a non-display area co-exist, said panel comprising:

scanning/sustaining electrodes provided at each discharge cell;
common sustaining electrodes formed in parallel to the scanning/sustaining electrodes at each discharge cell; and
at least two dummy electrodes, being provided at the non-display area, for supplying the non-display area with charged particles in the address interval.

2. (Currently Amended) The plasma display panel as claimed in claim 1, further comprising:

a dummy electrode driver ~~for applying that applies~~ a dummy pulse to the dummy electrodes during the address interval to cause a discharge between the dummy electrodes.

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3. (Previously Presented) The plasma display panel as claimed in claim 2, wherein the discharge cells are supplied with charged particles produced by said discharge between the dummy electrodes.
4. (Previously Presented) The plasma display panel as claimed in claim 1, wherein the dummy electrodes are formed in parallel to the scanning/sustaining electrodes and the common sustaining electrodes.
5. (Previously Presented) The plasma display panel as claimed in claim 1, wherein the common sustaining electrodes maintain a ground potential in the address interval.
6. (Previously Presented) A plasma display panel wherein an address interval for selecting discharge cells is included, and a display area and a non-display area co-exist, said panel comprising:

a dummy electrode driver for applying a dummy pulse to dummy electrodes such that the dummy electrodes formed at the non-display area can cause a first auxiliary discharge in the address interval; and

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a scanning/sustaining driver for sequentially applying an auxiliary pulse and a scanning pulse to scanning/sustaining electrodes such that the scanning/sustaining electrodes formed at the display area can sequentially cause a second auxiliary discharge and an address discharge in the address interval.

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7. (Previously Presented) The plasma display panel as claimed in claim 6, wherein the discharge cells within an effective display part are supplied with charged particles produced during the first auxiliary discharge.

8. (Currently Amended) The plasma display panel as claimed in claim 6, wherein the auxiliary pulse has [[the]] a positive polarity and the scanning pulse has [[the]] a negative polarity.

9. (Currently Amended) A method of driving a plasma display panel having ~~scanning/sustaining electrodes and address electrodes formed perpendicularly to the scanning/sustaining electrodes and including an address interval for selecting discharge cells, said method comprising the step of:~~

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applying a different polarity of pulses to [[the]] scanning/sustaining electrodes in
[[the]] an address interval; and

applying a pulse to a dummy electrode located in a non-display area outside a
circumference of a display area of said plasma display panel.

10. (Currently Amended) The method as claimed in claim 9, further comprising ~~the~~
~~steps of:~~

applying an auxiliary pulse to the scanning/sustaining electrodes to produce
charged particles within [[the]] discharge cells in [[the]] an address interval; and

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applying a data pulse applied to [[the]] address electrodes and a scanning pulse to
the scanning/sustaining electrodes after application of [[the]] an auxiliary pulse to cause an
address discharge.

11. (Currently Amended) The method as claimed in claim 10, wherein the auxiliary
pulse has [[the]] a positive polarity and the scanning pulse has [[the]] a negative polarity.

12. (Currently Amended) A method of driving a plasma display panel ~~wherein an~~
~~address interval for selecting discharge cells is included, and a display area and a non-display area~~

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~~co-exist, said method comprising the step of:~~

applying a dummy pulse to dummy electrodes positioned 20 at [[the]] a non-display area ~~to cause~~ causing a first auxiliary discharge ~~for supplying the~~ that supplies discharge cells with charged particles;

applying a positive auxiliary pulse and a negative scanning pulse to scanning/sustaining electrodes positioned at [[the]] a display area in [[the]] an address interval ~~to cause~~ causing a second auxiliary discharge and an address discharge; and

applying a data pulse synchronized with the scanning pulse to address electrodes arranged perpendicularly to the scanning/sustaining electrodes ~~to cause~~ causing said address discharge between the address electrodes and the scanning/sustaining electrodes.

Ack
13. (New) The plasma display panel as claimed in claim 1, further comprising address electrodes perpendicular to said scanning/sustaining electrodes and said common sustaining electrodes.

14. (New) The plasma display panel as claimed in claim 1, wherein said at least two dummy electrodes supply said non-display area with charged particles.

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15. (New) The plasma display panel as claimed in claim 14, wherein said charged particles are formed during an address interval.

16. (New) The plasma display panel as claimed in claim 1, wherein said non-display area does not include any discharge cells.

17. (New) The plasma display panel as claimed in claim 1, wherein said non-display area is outside of a circumference of said display area.

Ans
18. (New) The plasma display panel as claimed in claim 1, wherein an auxiliary discharge is formed by said at least two dummy electrodes in said non-display area.

19. (New) The plasma display panel as claimed in claim 1, wherein a first of said at least two dummy electrodes provides a first dummy pulse which is provided during a negative scanning pulse of said scanning/sustaining electrodes.

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20. (New) The plasma display panel as claimed in claim 1, wherein said at least two dummy electrodes comprise a first and a second dummy electrode, wherein said first dummy electrode alternates forming pulses with said second dummy electrode.

21. (New) The plasma display panel as claimed in claim 6, wherein the scanning pulse has a pulse width shorter than that of the auxiliary pulse.

22. (New) The plasma display panel as claimed in claim 6, wherein said dummy electrodes form charged particles during an address interval.

Ansatz
23. (New) The plasma display panel as claimed in claim 6, wherein said non-display does not include any discharge cells.

24. (New) The plasma display panel as claimed in claim 6, wherein said non-display area is outside of a circumference of said display area.

25. (New) The plasma display panel as claimed in claim 6, wherein said first auxiliary discharge is formed by said at least two dummy electrodes in said non-display area.

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26. (New) The plasma display panel as claimed in claim 6, wherein a first of said dummy electrodes provides a first dummy pulse which is provided during a negative scanning pulse of said scanning/sustaining electrodes.
27. (New) The plasma display panel as claimed in claim 6, wherein said dummy electrodes comprise a first and a second dummy electrode, wherein said first dummy electrode alternates forming pulses with said second dummy electrode.
28. (New) The method as claimed in claim 9, further comprising:
applying an alternate dummy pulse to a dummy electrode while said different polarity of pulses are applied to said scanning/sustaining electrodes.
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29. (New) The method as claimed in claim 28, further comprising:
forming a priming discharge by applying said pulse to said dummy electrode located outside of a display area of said plasma display panel.
30. (New) The method as claimed in claim 28, further comprising:
forming an auxiliary discharge in a non-display area of said plasma display panel.

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31. (New) The method as claimed in claim 9, further comprising:
forming a priming discharge by applying said pulse to said dummy electrode located outside of a display area of said plasma display panel.
32. (New) The method as claimed in claim 12, further comprising:
applying an alternate dummy pulse to a dummy electrode while applying said negative scanning pulse to said scanning/sustaining electrodes.
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33. (New) The method as claimed in claim 13, further comprising:
forming a priming discharge by applying said dummy pulse to a dummy electrode located outside of a display area of said plasma display panel.
34. (New) The method as claimed in claim 12, wherein said first and second auxiliary discharges are formed in a non-display area of said plasma display panel.
35. (New) The method as claimed in claim 12, further comprising:
forming a priming discharge by applying said dummy pulse to a dummy electrode located outside of a display area of said plasma display panel.

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36. (New) A plasma display panel, comprising:
- scanning/sustaining electrodes;
- common sustaining electrodes formed in parallel to said scanning/sustaining electrodes;
- dummy electrodes formed in parallel to said scanning/sustaining electrodes and said common sustaining electrodes;
- a dummy electrode driver that applies a dummy pulse to said dummy electrodes causing a first auxiliary discharge in an address interval; and
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- a scanning/sustaining driver that sequentially applies an auxiliary pulse and a scanning pulse to said scanning/sustaining electrodes sequentially causing a second auxiliary discharge and an address discharge in the address interval, wherein said common sustaining electrodes maintain a ground potential in the address interval.

37. (New) The plasma display panel as claimed in claim 36, further comprising discharge cells within an effective display part, wherein said discharge cells are supplied with charged particles produced during the first auxiliary discharge.

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Amend. 38. (New) The plasma display panel as claimed in claim 36, wherein said auxiliary pulse has a positive polarity and said scanning pulse has a negative polarity.
